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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,505	03/29/2002	Chun Byung Yang	5333-02400	5543

7590 10/08/2003

Eric B Meyertons
Conley Rose & Tayon
PO Box 398
Austin, TX 78767

EXAMINER	
BROWN, JENNINE M	

ART UNIT	PAPER NUMBER
1755	9

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

MS

Office Action Summary	Application N .	Applicant(s)	
	09/980,505	YANG ET AL.	
	Examiner	Art Unit	
	Jennine M. Brown	1755	

-- The MAILING DATE of this communication appears on th cov r sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 7-33 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 7-33 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,6,8 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Objections

The claims are objected to because they lack a proper introduction. The present Office practice is to insist that each claim must be the object of a sentence starting with "I (or we) claim", "The invention claimed is" (or the equivalent). MPEP § 608.01(m).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The catalyst is produced by mixing magnesium, alcohol, ester, boron, titanium and silicon to make a "solid titanium catalyst". It is unclear what the structure of the catalyst itself because claims lack the structure of each of these compounds used.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 7-33 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kioka, et al. (US 6235854 B1).

Kioka, et al. teach a titanium catalyst composition produced by contacting a magnesium compound (col. 3, l. 50-52; col. 4, l. 1 – col. 5, l. 7) solubilized in alcohol (col. 5, l. 8-52) with a first titanium compound (col. 6, l. 35 – col. 7, l. 12), polybasic carboxylic acid ester (col. 7, l. 56 – col. 8, l. 60) and then a second titanium compound (col. 10, l. 56-59), a silica carrier (col. 9, l. 58-64; col. 14, l. 15 – col. 15, l. 13) with organoaluminum compound (col. 12, l. 60 – col. 13, l. 58).

It would have been obvious for one of ordinary skill in the art to change the Lewis acid complex of the catalyst from a aluminum to a boron compound because they are known equivalents in the art and belong in the same group therefore will have similar chemical properties.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-33 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of US 6559250 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because a method of forming a catalyst has been disclosed where a titanium catalyst is formed by contacting magnesium halide with an alcohol and an ester compound which is a known electron donor, a phosphorus compound and a silicon compound. It would have been obvious to one of ordinary skill in the art to substitute a boron based Lewis acid for a phosphorus, sulfur or nitrogen based radical complex because it is known that the Lewis acid and radical complexes are equivalents in the art.

Claims 7-33 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of copending Application No. 10/399,193 (WO 03/000747 A1).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Although the conflicting claims are not identical, they are not patentably distinct from each other because both claim a catalyst produced by preparing a magnesium solution by contacting a halogenated magnesium compound with alcohol, reacting with an ester compound having at least one hydroxyl complex and a boron compound with at least one alkoxy group and 10/399193 "optionally" reacting with an additional

titanium compound where the instant application reacts with an additional titanium compound with a silicon compound. It would have been obvious to one of ordinary skill in the art to modify the catalyst because the second titanium complex can be complexed to silicon depending on whether or not one wants a homogeneous or heterogeneous system and it is well known in the art that silicon can be used as a carrier or a bridging ligand.

Claims 7-33 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of copending Application No. 10/171084.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Although the conflicting claims are not identical, they are not patentably distinct from each other because both claim a catalyst produced by preparing a magnesium solution by contacting a halogenated magnesium compound with alcohol, reacting with an ester compound having at least one hydroxyl complex and a silicon compound with at least one alkoxy group and reacting with an additional titanium and alkyl halide mixture. It would have been obvious to one of ordinary skill in the art to modify the catalyst because the second titanium complex can be complexed to silicon depending on whether or not one wants a homogeneous or heterogeneous system and it is well known in the art that silicon can be used as a carrier or a bridging ligand.

Relevant Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6028149 teaches a method of making a catalyst composition where a silyated silica support of magnesium halide or magnesium alkyl halide (col. 3, l. 9-14) and titanium (col. 3, l. 15-23) in an alcohol solvent (col. 3, l. 24-31) are mixed with an ester (electron donor - col. 4, l. 4-5; Lewis base – col. 4, l. 49-50) and again titanating the catalyst precursor (col. 1, l. 57 – col. 2, l. 7). Silylation of carrier by hexamethyl disilane or trimethylchlorosilane (col. 2, l. 62-65) or use of silicon tetrachloride as halogenating agent (col. 4, l. 8-15) is taught.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennine M. Brown whose telephone number is (703) 305-0435. The examiner can normally be reached on M-F 8:00 AM - 6:00 PM; first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (703) 308-3823. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

jmb

Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700